

What is claimed:

1. A photomask protected against electrostatic damage comprising:

5 a substrate having a front face and a back face, said substrate being transparent at least to light having a selected wavelength used for printing;

a pattern permanently applied over said front face of said substrate, said pattern being opaque to said
10 light having said selected wavelength used for printing; and

a conductive film which is transparent to said light having said selected wavelength used for printing, said conductive film deposited so as to at least cover those
15 portions of said front face of said substrate not covered by said opaque pattern.

2. The photomask of Claim 1 wherein said conductive film further covers said opaque pattern.

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3. The photomask of Claim 2 wherein said conductive film further covers said back face of said substrate, thereby forming a Faraday cage around said photomask.

25 4. The photomask of Claim 1 wherein said conductive film covers substantially all of said front face of said

substrate and said opaque pattern is permanently secured to said conductive film covering said front face of said substrate.

5 5. The photomask of Claim 4 wherein said conductive film further covers said back face of said substrate thereby forming a Faraday cage around said photomask.

6. The photomask of Claim 1 wherein said substrate is
10 fused silica.

7. The photomask of Claim 2 wherein said substrate is fused silica.

15 8. The photomask of Claim 4 wherein said substrate is fused silica.

9. The photomask of Claim 1 wherein said opaque pattern is made of a material selected from the group consisting
20 of Chromium and Molybdenum silicide.

10. The photomask of Claim 2 wherein said opaque pattern is made of a material selected from the group consisting of Chromium and Molybdenum silicide.

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11. The photomask of Claim 4 wherein said opaque pattern is made of a material selected from the group consisting of Chromium and Molybdenum silicide.

5 12. The photomask of Claim 6 wherein said opaque pattern is made of a material selected from the group consisting of Chromium and Molybdenum silicide.

10 13. The photomask of Claim 1 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

15 14. The photomask of Claim 2 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

20 15. The photomask of Claim 4 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

25 16. The photomask of Claim 6 wherein said conductive film is made from a material selected from the group

consisting of ITO (Indium Tin Oxide), Palladium,
Platinum, Gold and conductive polymers.

17. The photomask of Claim 9 wherein said conductive
5 film is made from a material selected from the group
consisting of ITO (Indium Tin Oxide), Palladium,
Platinum, Gold and conductive polymers.

18. The photomask of Claim 10 wherein said conductive
10 film is made from a material selected from the group
consisting of ITO (Indium Tin Oxide), Palladium,
Platinum, Gold and conductive polymers.

19. The photomask of Claim 11 wherein said conductive
15 film is made from a material selected from the group
consisting of ITO (Indium Tin Oxide), Palladium,
Platinum, Gold and conductive polymers.

20. The photomask of Claim 12 wherein said conductive
20 film is made from a material selected from the group
consisting of ITO (Indium Tin Oxide), Palladium,
Platinum, Gold and conductive polymers.

21. The photomask of Claim 1 wherein said light used for
25 printing has a wavelength of 436 nm (nanometer) and said

conductive film is ITO deposited to a thickness of about 100 Angstroms.

22. The photomask of Claim 2 wherein said light used for
5 printing has a wavelength of 436 nm (nanometer) and said
conductive film is ITO deposited to a thickness of about
100 Angstroms.

23. The photomask of Claim 4 wherein said light used for
10 printing has a wavelength of 436 nm (nanometer) and said
conductive film is ITO deposited to a thickness of about
100 Angstroms.

24. The photomask of Claim 6 wherein said light used for
15 printing has a wavelength of 436 nm (nanometer) and said
conductive film is ITO deposited to a thickness of about
100 Angstroms.

25. The photomask of Claim 12 wherein said light used
20 for printing has a wavelength of 436 nm (nanometer) and
said conductive film is ITO deposited to a thickness of
about 100 Angstroms.

26. The photomask of Claim 1 wherein said light used for
25 printing has a wavelength of about 248 nm (nanometer) and

said conductive film is Palladium deposited to a thickness of about 30 Angstroms.

27. The photomask of Claim 2 wherein said light used for
5 printing has a wavelength of about 248 nm (nanometer) and said conductive film is Palladium deposited to a thickness of about 30 Angstroms.

28. The photomask of Claim 4 wherein said light used for
10 printing has a wavelength of about 248 nm (nanometer) and said conductive film is Palladium deposited to a thickness of about 30 Angstroms.

29. The photomask of Claim 6 wherein said light used for
15 printing has a wavelength of about 248 nm (nanometer) and said conductive film is Palladium deposited to a thickness of about 30 Angstroms.

30. The photomask of Claim 12 wherein said light used
20 for printing has a wavelength of about 248 nm (nanometer) and said conductive film is Palladium deposited to a thickness of about 30 Angstroms.

31. The photomask of Claim 1 wherein said light used for
25 printed has a wavelength of about 193 nm (nanometer) and said conductive film is a material selected from the

group consisting of Palladium, Platinum, Gold and
conductive polymers deposited to a thickness of between
about 30 Angstroms and 100 Angstroms.

5 32. The photomask of Claim 2 wherein said light used for
printed has a wavelength of about 193 nm (nanometer) and
said conductive film is a material selected from the
group consisting of Palladium, Platinum, Gold and
conductive polymers deposited to a thickness of between
10 about 30 Angstroms and 100 Angstroms.

33. The photomask of Claim 4 wherein said light used for
printed has a wavelength of about 193 nm (nanometer) and
said conductive film is a material selected from the
15 group consisting of Palladium, Platinum, Gold and
conductive polymer deposited to a thickness of between
about 30 Angstroms and 100 Angstroms.

34. The photomask of Claim 6 wherein said light used for
20 printed has a wavelength of about 193 nm (nanometer) and
said conductive film is a material selected from the
group consisting of Palladium, Platinum, Gold and
conductive polymers deposited to a thickness of between
about 30 Angstroms and 100 Angstroms.

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35. The photomask of Claim 12 wherein said light used
for printed has a wavelength of about 193 nm (nanometer)
and said conductive film is a material selected from the
group consisting of Palladium, Platinum, Gold and
5 conductive polymers deposited to a thickness of between
about 30 Angstroms and 100 Angstroms.

36. A method of manufacturing a photomask protected
against electrical damage, comprising:

10 providing a substrate having a front face and a back
face, said substrate being transparent to a selected
light wavelength used for printing;

permanently applying a pattern over said front face
which is opaque to said light having a selected
15 wavelength used for printing;

depositing a conductive film so as to cover at least
those portions of said front face of said substrate not
covered by said opaque pattern, said conductive film
being transparent to said light having a selected
20 wavelength used for printing.

37. The method of Claim 36 wherein said depositing step
comprises depositing said conductive film to cover said
front face of said substrate including said pattern.

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38. The method of Claim 36 wherein said depositing step occurs prior to said step of applying said pattern and at least covers substantially all of said front face of said substrate.

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39. The method of Claim 36 wherein said substrate is fused silica.

40. The method of Claim 37 wherein said substrate is fused silica.

41. The method of Claim 38 wherein said substrate is fused silica.

42. The method of Claim 36 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

43. The method of Claim 37 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

44. The method of Claim 38 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

45. The method of Claim 39 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

5 46. The method of Claim 40 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

10 47. The method of Claim 41 wherein said opaque pattern is made from a material selected from the group consisting of Chromium and Molybdenum Silicide.

15 48. The method of Claim 38 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

20 49. The method of Claim 37 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

25 50. The method of Claim 38 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium, Platinum, Gold and conductive polymers.

51. The method of Claim 39 wherein said conductive film is made from a material selected from the group consisting of ITO (Indium Tin Oxide), Palladium,
5 Platinum, Gold and conductive polymers.

52. The method of Claim 48 wherein said conductive film is ITO deposited to a thickness of about 100 Angstroms.

10 53. The method of Claim 49 wherein said conductive film is ITO deposited to a thickness of about 100 Angstroms.

54. The method of Claim 50 wherein said conductive film is ITO deposited to a thickness of about 100 Angstroms.

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55. The method of Claim 48 wherein said conductive film is made from a material selected from the group consisting of Palladium, Platinum, Gold and conductive polymer and is deposited to a thickness between about 30
20 Angstroms and 100 Angstroms.

56. The method of Claim 49 wherein said conductive film is made from a material selected from the group consisting of Palladium, Platinum, Gold and conductive
25 polymer and is deposited to a thickness between about 30 Angstroms and 100 Angstroms.

57. The method of Claim 50 wherein said conductive film
is made from a material selected from the group
consisting of Palladium, Platinum, Gold and conductive
5 polymer and is deposited to a thickness between about 30
Angstroms and 100 Angstroms.

58. The method of Claim 51 wherein said conductive film
is made from a material selected from the group
10 consisting of Palladium, Platinum, Gold and conductive
polymer and is deposited to a thickness between about 30
Angstroms and 100 Angstroms.

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